

WHAT IS CLAIMED IS:

1. A method of managing resources in a build-to-order manufacturing facility, the method comprising:
 - automatically maintaining a work-in-process (WIP) profile for an area in a manufacturing facility, based on scans of each product unit entering the area and each product unit leaving the area;
 - determining a total amount of product in the area by aggregating information on individual product units;
 - automatically updating a display device in a control center for the manufacturing facility to depict the total amount of product in the area in substantially real time, based on the WIP profile;
 - after updating the display device in the control center to depict the total amount of product in the area, receiving user input that specifies a desired reallocation of resources for the manufacturing facility;
 - in response to receiving the user input, automatically communicating with the area in the manufacturing facility to implement the desired reallocation of resources;
 - monitoring pieces of equipment in the manufacturing facility for equipment errors;
 - updating the display device in the control center to depict graphical illustrations of the pieces of equipment;
 - in response to detecting an equipment error, automatically updating the display device in the control center to depict the detected error in substantially real time;

after updating the display device in the control center to depict the detected error, receiving user input that specifies a second reallocation of resources for the manufacturing facility; and

- 5 in response to receiving the user input, automatically communicating with one or more areas in the manufacturing facility to implement the second reallocation of resources.

2. A method of managing resources in a build-to-order manufacturing facility, the method comprising:

5 automatically maintaining a work-in-process (WIP) profile for an area in a manufacturing facility, based on scans of product units entering the area and product units leaving the area;

determining a total amount of product in the area by aggregating information on individual product units;

10 automatically updating a user interface in a control center for the manufacturing facility to depict the total amount of product in the area in substantially real time, based on the WIP profile;

15 after updating the user interface in the control center to depict the total amount of product in the area, receiving user input that specifies a desired reallocation of resources for the manufacturing facility; and

20 in response to receiving the user input, automatically communicating with the area in the manufacturing facility to implement the desired reallocation of resources.

3. A method of managing resources in a build-to-order manufacturing facility, the method comprising:

displaying, in a user interface in a control center for a manufacturing facility, graphical illustrations of
5 pieces of equipment in the manufacturing facility;

monitoring the pieces of equipment in the manufacturing facility for equipment errors;

in response to detecting an equipment error,
automatically updating a user interface in the control
10 center to depict the detected error in substantially real time;

after updating the user interface in the control center to depict the detected error, receiving user input that specifies a desired reallocation of resources for
15 the manufacturing facility; and

in response to receiving the user input,
automatically communicating with one or more areas in the manufacturing facility to implement the desired reallocation of resources.

4. A method of managing resources in a build-to-order manufacturing facility, the method comprising:

monitoring work-in-process (WIP) profiles that represent dynamic attributes of different areas in a manufacturing facility;

automatically updating a user interface in a control center for the manufacturing facility to depict one or more of the dynamic attributes in substantially real time, based on one or more of the WIP profiles;

after updating the user interface in the control center to depict one or more of the dynamic attributes in substantially real time, receiving user input that specifies a desired reallocation of resources for one or more of the different areas in the manufacturing facility; and

in response to receiving the user input, automatically communicating with one or more of the different areas in the manufacturing facility to implement the desired reallocation of resources.

5. The method of Claim 4, further comprising:
determining total amount of product in at least one of the areas in the manufacturing facility by aggregating information on individual product units in one or more WIP profiles.

6. The method of Claim 4, further comprising:
automatically updating the WIP profile for at least
one of the areas in the manufacturing facility, based on
scans of product units entering the area and product
5 units leaving the area, such that the dynamic attributes
comprise an attribute pertaining to amount of product in
the area.

7. The method of Claim 4, wherein:
10 the dynamic attributes comprise an attribute
pertaining to amount of product in a specific area of the
manufacturing facility; and
the operation of updating the user interface
comprises updating the user interface to depict the
15 amount of product in the specific area of the
manufacturing facility in substantially real time.

8. The method of Claim 4, further comprising:
detecting an error associated with a resource in the
20 manufacturing facility;
updating the user interface to depict the detected
error; and
reallocating resources based on user input received
after the detected error has been depicted.

25 9. The method of Claim 8, wherein the operation of
detecting an error comprises detecting an equipment
error.

10. The method of Claim 9, wherein the operation of detecting an error comprises detecting a process error.

11. The method of Claim 4, wherein the operation of
5 automatically updating the user interface in the control center comprises:

displaying graphical illustrations of pieces of equipment in the manufacturing facility; and

10 depicting operational status information for the pieces of equipment in substantially real time.

12. The method of Claim 4, wherein the operation of monitoring WIP profiles comprises:

15 monitoring respective WIP profiles for a build facility, a packaging facility, and a shipping facility in the manufacturing facility.

13. The method of Claim 4, wherein the operation of automatically communicating with one or more of the
20 different areas in the manufacturing facility to implement the desired reallocation of resources comprises:

25 automatically communicating with one or more of a build facility, a packaging facility, and a shipping facility in the manufacturing facility.

14. The method of Claim 4, wherein the operation of automatically updating the user interface comprises:

30 displaying information that pertains to a bottleneck restricting completion and shipment of an order.

15. The method of Claim 14, wherein the operation of automatically communicating with one or more of the different areas in the manufacturing facility to implement the desired reallocation of resources

5 comprises:

dynamically allocating resources to relieve the bottleneck.

16. The method of Claim 4, further comprising:

10 determining available shipping capacity based on shipping and scheduling information for a carrier that serves the manufacturing facility;

analyzing one or more WIP profiles for an order that may be shipped via the carrier;

15 determining a complete percentage of the order, based on the WIP profiles; and

dynamically assigning the carrier to a dock associated with the manufacturing facility in response to determining the complete percentage of the order.

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17. The method of Claim 16, further comprising:

causing required product to fill the order to be retrieved from an automated storage and retrieval system (ASRS);

25 processing the product for shipment; and

causing the product to be transported to the assigned dock for tender to the carrier.

18. A program product for managing resources in a build-to-order manufacturing facility, the program product comprising:

a computer-usable medium;

5 computer instructions encoded in the computer-usable medium, wherein the computer instructions, when executed, perform operations comprising:

monitoring work-in-process (WIP) profiles that represent dynamic attributes of different areas in a
10 manufacturing facility;

automatically updating a user interface in a control center for the manufacturing facility to depict one or more of the dynamic attributes in substantially real time, based on one or more of the WIP profiles;

15 after updating the user interface in the control center to depict one or more of the dynamic attributes in substantially real time, receiving user input that specifies a desired reallocation of resources for one or more of the different areas in the manufacturing
20 facility; and

in response to receiving the user input, automatically communicating with one or more of the different areas in the manufacturing facility to implement the desired reallocation of resources.

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19. The program product of Claim 18, wherein the computer instructions generate a production and dock door scheduling user interface in the control center to facilitate dynamic monitoring and allocation of resources
30 for the manufacturing facility.

20. The program product of Claim 18, wherein the computer instructions generate a WIP profile and resource allocation user interface in the control center to facilitate dynamic monitoring and allocation of resources
5 for the manufacturing facility.

21. The program product of Claim 18, wherein the computer instructions generate a process error and recovery user interface in the control center to
10 facilitate dynamic monitoring and allocation of resources for the manufacturing facility.

22. The program product of Claim 18, wherein the computer instructions generate an equipment error
15 identification and recovery user interface in the control center to facilitate dynamic monitoring and allocation of resources for the manufacturing facility.

23. A system for managing resources in a build-to-order manufacturing facility, the system comprising:

a display device in a control center of a manufacturing facility; and

5 a centralized information handling system in communication with the display device and in communication with equipment in different areas in the manufacturing facility, wherein the information handling system performs operations comprising:

10 monitoring work-in-process (WIP) profiles that represent dynamic attributes of the different areas in the manufacturing facility;

automatically updating a user interface in the control center to depict one or more of the dynamic attributes in substantially real time, based on one or
15 more of the WIP profiles;

after updating the user interface in the control center to depict one or more of the dynamic attributes in substantially real time, receiving user input that
20 specifies a desired reallocation of resources for one or more of the different areas in the manufacturing facility; and

in response to receiving the user input, automatically communicating with one or more of the
25 different areas in the manufacturing facility to implement the desired reallocation of resources.